FM LASER ABSORPTION OF THE $\tilde{A}(000) \leftarrow \tilde{X}(010)$ AND $\tilde{A}(000) \leftarrow \tilde{X}(011)$ BANDS OF HCCl

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The 000←010 and 000←011 bands of the $\tilde{A} \leftarrow \tilde{X}$ system of HCCl lying at approximately 11 100cm^{-1} and 10 300cm^{-1}, respectively, were recorded and analyzed. HCCl was formed by the photolysis of a continuous flow of a 1% mixture of $HCClBr_2$ in nitrogen buffer gas at a total pressure of 1 Torr using an ArF excimer laser at 193nm. The spectrum was recorded in absorption using a continuous wave, frequency-modulated, Ti:Sapphire laser and a Herriot-type absorption cell. In the, stronger, 000←010 transition, three subbands, K= 0←1, 1←0, 1←2, of $HC^{35}Cl$ and one subband, K= 0←1, of $HC^{37}Cl$ were identified. Since the upper state in the transition is known from previous work, the analysis determines the the rotational and vibrational energies of these ground electronic state levels of HCCl for the first time.